DOCUMENT RESUME

ED 165 014 CG 013 054

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TITLE Pipeline: An Employment and Training Simulation.
INSTITUTION Manpower Development Higher Education System (MDHES), Oakland Univ., Rochester, Mich.
SPONS AGENCY Employment and Training Administration (DOL), Washington, D.C.
REPORT NO MDHES-10
PUB DATE Feb 78
GRANT DL-31-26-74-05
NOTE 36p.; For related document see CG013055

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS College Curriculum; *Delivery Systems; *Educational Games; *Employment Qualifications; Higher Education; *Job Skills; Organizational Effectiveness; Program Descriptions; *Simulation; *Skill Development; Training

ABSTRACT

This monograph is one of a series developed for curriculum in higher education which prepares personnel for employment in local, state, and regional levels of Employment and Training Administration programs of the U.S. Department of Labor. This publication describes a simulation game called "Pipeline" rather than a regular university course. The game is intended to represent major aspects of employability programs and to surface a number of issues related to the organization, management, and delivery of services in employment and training programs. The constraints of the game allow participants to assume ownership for their actions during the game, thereby assisting participants to locate problem areas and to pose solutions. At the end, participants move from a simulated setting to a better understanding of the real problems which exist within Employment and Training Programs. This document addresses the following topics: an overview of development and employability programs, simulation of the employability system, game preparations, rules, game facilitator's responsibilities, and debriefing. (Author/JLL)

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ED165014

PIPELINE: AN EMPLOYMENT AND TRAINING SIMULATION

No. 10 in a Series

Produced by:
Manpower Development Higher Education System (MDHES)
Oakland University, Rochester, Michigan

Prepared Under:
Grant Award No. 31-26-74-05
Employment and Training Administration
U.S. Department of Labor

February 1978

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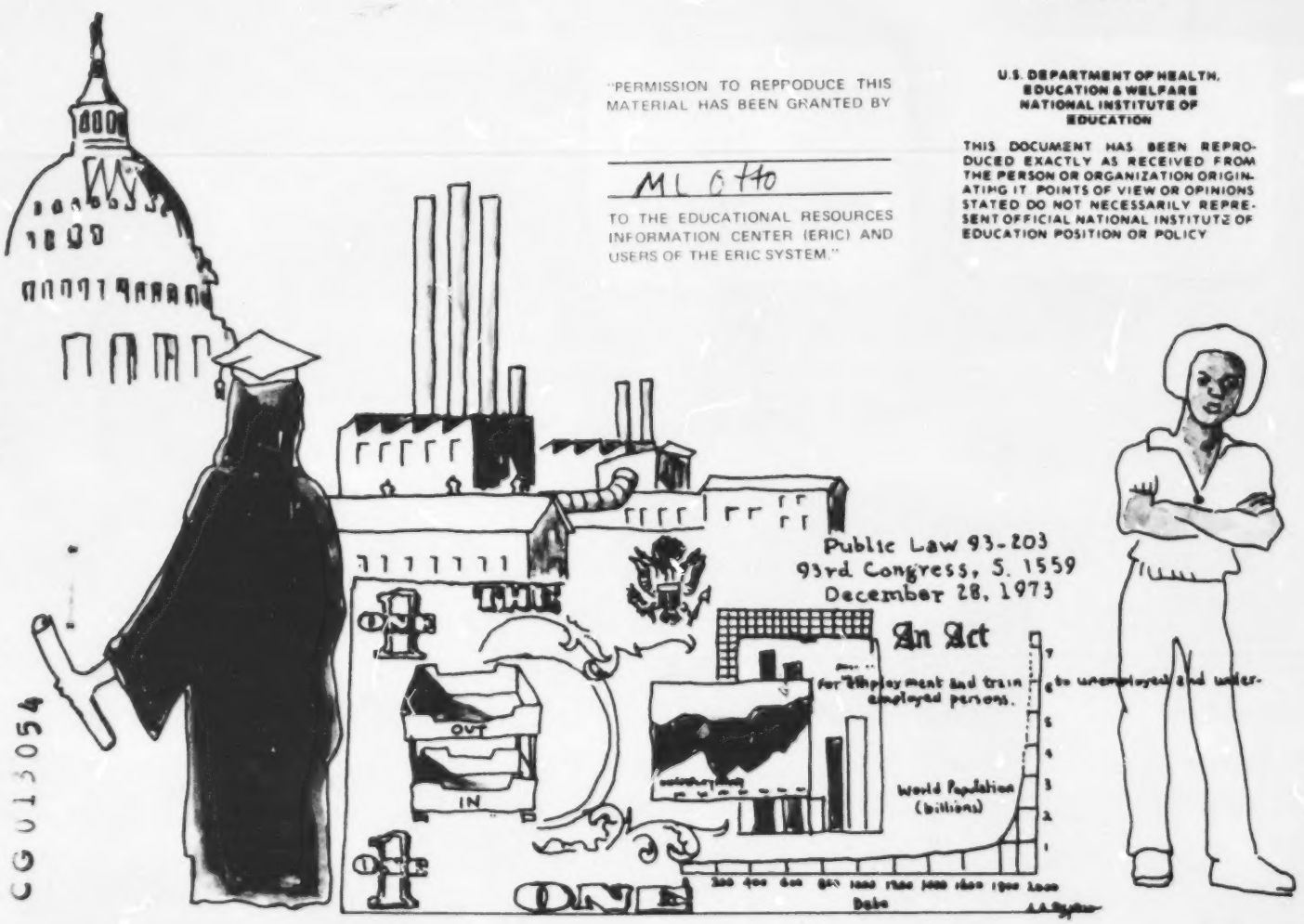

CG013054

PIPELINE:

An Employment and Training Simulation

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This report was prepared for the Employment and Training Administration, U.S. Department of Labor, under research and development contract (grant) No. DL-31-74-05. Since contractors (grantees) conducting research and development projects under Government sponsorship are encouraged to express their own judgement freely, this report does not necessarily represent the official opinion or policy of the Department of Labor. The contractor (grantee) is solely responsible for the contents of this report.

PREFACE

This monograph is one of a series developed for curriculum in higher education which prepares personnel for employment in local, state and regional levels of Employment and Training Administration programs of the U.S. Department of Labor. This publication is unique in that it describes a simulation game rather than a regular university course. The game is intended to represent the major aspects of employability programs and to surface a number of issues related to the organization, management, and delivery of services in employment and training programs.

The simulation game was developed by Jean L. Easterly and David P. Meyer, faculty members in Oakland University's School of Education.

The last page of this monograph is an evaluation form. We request that you return it after you have had time to examine the monograph and its possible uses to you. Your feedback will be of great assistance in evaluating our curriculum effectiveness. Thank you.

A complete description of the B.S. in Human Resources Development with a Manpower concentration is contained in Monograph No. 8, "Higher Education for Manpower Program Personnel: Development and Design of the Program at Oakland University." For information and literature on our other publications contact:

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PIPELINE: AN EMPLOYMENT AND TRAINING SIMULATION

1.0 INTRODUCTION

The idea of Pipeline began as an effort to introduce those who were unfamiliar with Employment and Training programs to some of the essential procedures and difficulties inherent in such programs. We thought that some "simple game" might serve to instruct potential service deliverers and program managers in a dramatic and active manner.

However, simulating an employability system as complex as those currently established turned out to be no easy task. This is especially so when two persons, one having expertise in the content (Employment and Training programs) and the other in game design, attempt to unify their efforts. Thus, Pipeline was developed using a "dual design"process. When a single designer develops a simulation game, the process may be seen as both an art--an unstructured process which uncovers a model previously held at the implicit level of consciousness (Shirts, 1976); and as a science--a careful abstraction of elements from reality to build a model rationally selecting the elements to simulate from the model.

The "dual design" process, however, used in designing Pipeline was quite different. The first step was to formulate a model representing a typical Employment and Training Program. Thus, the game design partner had not only to learn about Employment and Training programs, but also had to visualize each component in relation to all the others. This had to occur before any attempt at simulation could even begin. And due to the complex social context in which Employment and Training programs occur, certain limitations had to be imposed upon the model before it became unmanageably complex. The content design partner, meanwhile had to learn about simulations, and the effect the limitations imposed on the model would have, always guarding against discarding a crucial component.

Then the simulation design partner had to design ways of simulating components, not only as isolated elements, but as an articulated whole. At each step in this process, the content partner applied the criterion of accuracy in component representation. If a translation didn't measure up, it was modified and in some cases, discarded.

Finally, a long series of trial runs before a variety of audiences was carried out with the codevelopers running the simulation jointly. Feedback on these trials was gathered through evaluation forms (Appendix A.1), supplemented by discussions with participants and observers. Numerous rule and component changes were made so that eventually the Pipeline simulation in its present form emerged. It was, in retrospect, as all creative events, an exciting and challenging process.

2.0 OVERVIEW OF DEVELOPMENT OF EMPLOYABILITY PROGRAMS

2.1 Socio-cultural Forces

In the years following World War II, a number of social and economic forces were at work which would lead in the 1960's to a new and national approach to problems of unemployment. These forces included:

1) Increased migration of workers from rural to urban areas, following a declining demand for farm labor due to rising farm productivity.

2) Increased labor force participation, especially by women pursuing continuous working careers

3) A surging tide of technological change which accelerated worker productivity to a level of increase one-third greater per year than before the war.

4) A post-war baby boom which predetermined youth employment problems beginning in the early sixties.

5) The GI Bill, resulting in a huge demand for education--which was required by increasing technology and competition in the labor market.

6) Minorities' awareness of and insistence upon their fair share of the American dream: education, housing, public accommodations and most of all, jobs.

2.2 Early Efforts at Reducing Unemployment

When the Kennedy Administration took hold in 1961, they were faced with rising unemployment in general, as well as high structural unemployment for selected worker groups. But that administration was unprepared for action to combat disorders prevalent in the work arena. Congress acted by default--timidly and misdirectedly with the Area Rehabilitation Act of 1961, which was designed to aid limited pockets of unrelenting depression.

2.3 MDTA: Landmark Legislation

Despite opposition, prestigious witnesses such as the Chairman of the Federal Reserve Board and the former Chairman of the Council of Economic Advisors opined that there was no lack of jobs (!)--the Manpower Development and Training Act of 1962 was passed. Its first emphasis was upon youth, to counter burgeoning youth unemployment, but later poverty and racial criteria were added as the shape and size of the problem became apparent. MDTA, as it came to be called, offered

remedial basic education, orientation to the world of work, occupational and personal counseling, supportive services, work experience and vocational training to increasing numbers of chronically unemployed, under-employed and disadvantaged labor market entrants. At first nobody was certain what services to offer, but those mentioned formed the core of a wide spectrum attack on unemployment and poverty in this country during the 1960's.

2.4 More Legislation

Other legislation supported these efforts toward a more egalitarian society: the Civil Rights Act of 1964; the Vocational Education Act of 1963 and the Economic Opportunity Act of 1964 and finally an Amendment to the Social Security Act of 1967. These special population groups were identified and supported in their efforts to improve their employability. The Work Incentive Program (WIN) sought to assist Welfare recipients to break out of the cycle of unemployment and disadvantage. The Job Corps was designed to assist urban youths to acquire job skills in a quasi-military environment away from the cities. The Concentrated Employment Program focused on specific geographic target areas of high unemployment. The Neighborhood Youth Corps offered work experience and the chance to earn money, often for the first time, to poor youngsters across the country, in both summer programs and during the regular school year. Head Start, Public Service Careers, Operation Mainstream and Public Employment Programs (PEP) supplemented these other efforts for special client groups.

2.5 Core Services

In these years through trial and effort, a core of services was developed which is still typical of employability programs under the Comprehensive Employment and Training Act (CETA) which forms the current legislative mandate for employability services to the poor.

These services are based on the theoretical bias that the individual poor or unemployed person can become employable through the changes in the ability to compete for jobs through the application of certain services. The programs are not designed to change the number of employment opportunities, which is considered the province of economic and fiscal policy, except incidentally through on-the-job training contracts with employers, and in some cases subsidized employment. Essentially the process is one of working on the disadvantaged client rather than on the employment environment.

Consequently, a typical employability program has evolved which may be characterized by progression through a number of stages:

1) Outreach: Suitable clients for the kind of program being mounted must be located and induced to enroll.

2) Intake: Clients have to be enrolled in the program so as to obtain its benefits (stipends, remedial services, etc.). At this point program criteria for admittance are applied; often preference is given to certain categories of unemployed persons: veterans, racial minorities, heads of household, welfare recipients, and youth. Need and feasibility are key intake concepts.

3) Assessment: Enrollees (as they are now called) go through some process by which program officials can determine the barriers to employment which must be removed and the abilities which may be capitalized upon to forward enrollees to employment. Standardized tests especially validated for disadvantaged groups may be used, or interviews, records and case histories employed to evaluate the enrollees' employment potential.

4) Counseling and employability planning: Enrollees are assisted by trained specialists to enter into a plan of personal/vocational/educational development which considers the program resources, their own psychological/economic/social needs, and the possibilities of the job market. This assistance usually continues as long as the enrollee is associated with the program, in both individual and group sessions.

5) Vocational training and remedial education: Assuming the enrollee has limited or no occupational skills and/or limited basic education (reading, writing and math), most programs offer courses to give enrollees a marketable vocational skill in a reasonable time, and basic educational skills to allow them to profit from such training and to move up, once employed.

6) Supportive services: Given the severe disadvantagement of many employability program clients, it is necessary to assist them with other medical, legal, psychological and family services so that they may continue in the program without catastrophic environmental disturbances.

7) Job development: As an enrollee moves toward the end of the employability process, the program finds it necessary to assist in a variety of ways to insure that a job is obtained consistent with the individual's goals and training received in the program. Job development thus involves contacting and influencing employers, matching enrollees to the available job openings, negotiating with employers concerning referrals, preparing enrollees for job interviews and following up on those placed.

3.0 SIMULATING THE EMPLOYABILITY SYSTEM

3.1 Sequencing

This simulation is designed to represent the main features of current employability programs through environmental constraints and a step by step progression through the program phases by a majority of players. Certain institutional aspects of society are broadly represented which tie in to the nature and clientelle of the employability program (e.g. the welfare system, in its broadest sense, including unemployment insurance and some parts of Social Security). Events in the game are sequenced much as they are in real life, with outreach and recruitment occurring first, assessment next, then employability planning, then skills acquisition and finally job development and placement.

3.2 Selection of Variables

The variables which the designers of Pipeline have selected for representation include:

1) The social condition of unemployment

2) The inherent need for money to survive

3) A limited number of options for acquiring money, which are:

   a) The Pipeline system, representing employment training opportunities

   b) Alternative money earning lifestyles, outside the job market

   c) Income maintenance programs such as Welfare, Unemployment Insurance, and Social Security

4) Work, career fields and skill levels

5) The job market, including aspects of entry, productivity, promotion and dismissal.

3.21 Unemployment

All players, save seven who have special jobs, begin as "unemployed", i.e., they have nothing to do, and no money, but have been informed that money will be needed to survive and that there are three options for acquiring it. Furtherfore, these unemployed have been identified by badge as belonging to one or more of the following groups: veterans, heads of households, youths, minorities. Such membership affects how players will be treated by those with special roles.

3.22 Need for Money

At certain intervals during the simulation, players are required to present a buck to the Game Overall Director in order to survive. These collections are preceded by "two minute warnings," with the effect that players must increase their efforts to obtain money, creating heightened interaction.

A) Option 1: Pipeline System

The Pipeline system consists of three segments, each managed by a "gatekeeper" with duties peculiar to the system. Gatekeeper I is charged with recruiting and enrolling the unemployed, keeping to certain quotas of special group members. Gatekeeper I also administers a simple assessment which determines the unemployed person's career field. Depending on the enrollee's response, one of three different colors of construction paper is given, representing different career fields.

Gatekeeper II receives enrollees from Gatekeeper I, imparts knowledge to them, and evaluates their learning according to a simplified version of Bloom's taxonomy (1956). Three boxes of collage materials are available for each of the career fields, from which the enrollee may choose. The lowest level boxes contain newspaper clippings and are representative of learning at a memory or descriptive level. The middle level contains colored wrapping paper and represents a more complex type of learning which includes an interpretive level of thinking. The highest level contains colored pictures, ribbons and cloth and represents learning at its most complex evaluative level.

Gatekeeper III operates the final stage of the Pipeline system, assisting enrollees to plan to use their materials to best effect and arranges for them to enter the labor market by negotiating with Collage Master, who represents the employing community.

In addition, the Pipeline system has a Pipeline Supervisor, whose responsibilities are to assist Gatekeepers to coordinate their efforts, to see that they carry out their duties, to answer their questions and to evaluate their work.

B) Option 2: Alternative Lifestyles

Players may opt to play cards with the Chance Master as a means of earning money necessary to survive. This is risky as are the real life options it represents: self employment, street hustling, "dropping out" or crime.

C) Option 3: Income Maintenance

Players who are not selected by Gatekeeper I or who don't wish to enter the Pipeline system, or who can't or won't gamble, may choose to get money from the Head of the Circle who represents various income maintenance programs, such as Welfare, Social Security or Unemployment Insurance. The lines to see Head of Circle are generally long; the red tape is oppressive and the monetary awards slim for those who choose this avenue. Players in the Pipeline system receive priority attention from Head of Circle so that they are sure to survive, a representation of stipends paid enrollees in Employment and Training Programs.

3.23 Work, Career Fields and Skill Levels

Work is represented by the activity of collage making which offers a unique combination of creativity and structure symbolizing work in an intriguing way (Cabianca, 1972). Collage making requires a piece of construction paper and materials for gluing to it. The color of the construction paper is used to represent (three) different career fields; the quality of the collage materials represents different skill levels.

3.24 The Job Market

Those who pass through the Pipeline system, having acquired collage making materials may move into jobs in the world of work, each of which is represented by a chair at a work table. Collage construction paper color must match the chair color, so that shortages or surpluses may occur in certain career fields. The job market is under the control of the Collage Master who, representing employers, hires workers to fill empty chairs, evaluates their work and pays them. If the work of the collage makers is unsatisfactory, they may be dismissed and sent to a recycling area to await another opening. If their work is very good, collage makers may be promoted to larger tables having the most pictorially attractive magazines with which to work. In general, the ratio of promotion slots to entry slots is 1 to 3; and the number of entry jobs is about 1/4 the total number of players so that competition for jobs is strong, just as in the current labor market.

4.0 GAME PREPARATIONS

In order to direct a simulation game it is important that the game facilitator engage in both long and short range preparations. The sections which follow are arranged to facilitate this process.

4.1 Materials Needed for Pipeline

One good sized room or classroom (A very large room is ideal.)

One roll of adhesive or masking tape

Forty pieces of 8 1/2" x 11" yellow construction paper

Forty pieces of 8 1/2" x 11" pink construction paper

Forty pieces of 8 1/2" x 11" light blue construction paper

One deck of cards

One pair of dice

Approximately 100 poker chips

Approximately 100 bucks or play money (one-dollar bills)

One collage of twenty-one pictures: seven pictures which are predominantly yellow, seven pictures which are predominantly pink, and seven pictures which are predominantly light blue

Three pictures which show people in a complex but rather ambiguous situation

Ten containers, preferably shoe boxes

Twenty pairs of scissors

Seven bottles of glue or paste with small wedges of paper on which glue or paste may be placed and a box of Q-tips

Forty questionnaires using the format found in Appendix A.2

Collage materials, ranging from very ordinary materials to highly attractive materials

Forty badges

Half a dozen magazines having colored pictures

Four magic markers--one of red, one of green, one of blue and one of purple

Half a dozen pairs of gloves

4.2 Room Preparations

A good sized room or classroom is needed in order to accommodate the variety of spaces and artifacts of Pipeline. Following the design shown in "Room Arrangement" (Appendix A.3), place seven desks, three tables and three chairs in one part of the room. Tape a yellow piece of construction paper to the four pieces of furniture clustered to the left; tape a pink piece of construction paper to the three pieces of furniture clustered in the middle; tape a piece of light blue construction paper to the three pieces of furniture clustered to the right. The preceding preparations assume that approximately 20-25 players will participate excluding the Gatekeepers, Collage Master, Pipeline Supervisor, Head of Circle and Chance Master. If fewer players participate less desks are necessary.

Following the section entitled "Room Arrangement," tape adhesive tape or masking tape on the floor wherever a line is indicated. Somewhere in Territory P, tape the letter "P" on the floor. In the space called Gatekeeper I, tape the Roman numeral "I". In the space called Gatekeeper II, tape the Roman numeral "II". In the space called Gatekeeper III, tape the Roman numeral "III". In Territory R tape the letter "R" and in Territory H tape the letter "H". If you haven't already done so, remove parts of the tape separating Territory R from Territory H. In the space called Isolation tape the letter "I".

In the center of NO TRESPASSING, to the left of the Pipeline, place a box of bucks or play money one-dollar bills.

Somewhere in Territory P place a deck of cards, a pair of dice and approximately 100 poker chips.

Somewhere in Gatekeeper I place approximately thirty pieces of 8 1/2" x 11" yellow construction paper, pink construction paper and light blue construction paper. Prepare a collage of twenty-one pictures--seven pictures which are predominantly light blue, seven pictures which are predominantly pink, and seven pictures which are predominantly yellow. Place the collage in Gatekeeper I.

Somewhere in Gatekeeper II place three pictures which show people in a complex but rather ambiguous situation. One of the pictures should be attached to a yellow piece of construction paper; one of the pictures should be attached to a pink piece of construction paper; one of the pictures should be attached to a light blue piece of construction paper. Below each picture a few sentences should be printed or typed. The sentences should, in some way, enlarge upon the meaning of each picture.

Somewhere in Gatekeeper II place nine containers which are marked in the following manner: Level I written on yellow construction paper, Level II written on yellow construction paper, Level III written on yellow construction paper, Level I written on pink

construction paper, Level II written on pink construction paper, Level III written on pink construction paper, Level I written on light blue construction paper, Level II written on light blue construction paper and Level III written on light blue construction paper. In all Level I containers place the simplest most ordinary types of collage materials. In all Level II containers place more interesting types of collage materials. In all Level III containers place the most complex and attractive collage materials which can be found.

Somewhere in Gatekeeper III place at least twenty pairs of scissors, a box of Q-tips and several bottles of glue or paste with small wedges of paper on which the glue or paste may be placed.

Somewhere near the three tables place a half dozen magazines having colored pictures, several bottles of glue or paste and pieces of yellow, pink and light blue construction paper.

Somewhere in Head of Circle place at least forty questionnaires; these should be prepared in advance using the format which appears in Appendix A.2. (Unlimited duplication of questionnaires is permitted.)

4.3 Badge Preparations

In order to prepare badges, it is important to know approximately how many players there will be, excluding Gatekeepers, Collage Master, Pipeline Supervisor, Head of Circle, and Chance Master. When the number of players has been estimated, prepare badges in the following manner:

1) Separate 15% of the badges at the beginning. Do not mark on these.

2) Of the <u>remaining</u> badges, mark them using the following percentages:

   a) 30% of the badges should be marked with one blue line;

   b) 15% of the badges should be marked with one green line;

   c) 10% of the badges should be marked with one purple line; and

   d) 5% of the badges should be marked with one red line. (At least one of the badges with the red lines should not have any other lines on the badge.)

In addition to the player's badges, prepare one badge for each of the seven job descriptions: Gatekeeper I, Gatekeeper II, Gatekeeper III, Collage Master, Pipeline Supervisor, Head of Circle and Chance Master.

5.0 RULES

Pipeline has many rules which emerge during the game. At the beginning, however, the game facilitator has relatively few rules to explain. The crux of the rules are the seven job descriptions which must be thoroughly learned by seven volunteers shortly before the actual game begins.

5.1 Game Facilitator's Introductory Statement

Welcome to Pipeline! Each of you has been given a badge. You are requested to wear your badge at all times during the game. Please go now to Territory P.

The object of the game is to obtain bucks in order to survive. Bucks are obtained in three ways. First, bucks are obtained by moving through the Pipeline, obtaining the supplies and materials necessary to make collages, and securing a chair or table so that you can make collages. The second way of obtaining bucks is by going to Head of Circle. The third way of obtaining bucks is by remaining in Territory P and going to Chance Master.

During the game I will be stopping you once in a while to get one buck from you. Since I know that it will take each of you a few minutes to obtain a buck, you will be given approximately twenty minutes of "free play" before you have to start paying your way. After that time, any player unable to pay his/her way in the game will die. You may be asked to pay several times during the game.

You are not permitted to travel from Territory P unless you use the access lane to see Head of Circle or you are invited to enter the Pipeline by Gatekeeper I. Players in the Pipeline or in Territories H or R may use the appropriate access lanes to see Head of Circle at any time. Players may also return to Territory P at any time during the game.

Any player who is found in the NO TRESPASSING area will be sent to Isolation. The game of Pipeline will now begin!

5.2 Job Descriptions

In addition to the Game Facilitator's statement, Pipeline has seven jobs which must be assumed by seven persons who would otherwise have been players. The game facilitator may ask for volunteers or simply ask seven persons to assume these jobs. All this should take place about ten minutes before the game starts so that these seven persons may study their job descriptions and begin to make plans.

The seven job descriptions should be prepared in advance so that they may be distributed to the seven persons who are: Gatekeeper I, Gatekeeper II, Gatekeeper III, Collage Master, Pipeline Supervisor, Head of Circle, and Chance Master. In addition, the seven persons

should be given a badge so that everyone may know who they are. Gatekeeper I is given the following set of instructions.

5.21 Gatekeeper I

Gatekeeper I is responsible for selecting players and inviting them to enter the Pipeline. If players do not wish to enter the Pipeline, you should encourage them but respect their wishes if they decline. Gatekeeper I is responsible for selecting players so that:

a) 50% or over of the player's badges should be marked with one blue line;

b) 30% or over of the player's badges should be marked with one purple line;

c) 30% or over of the player's badges should be marked with one green line;

d) 10% or over of the player's badges should be marked with one red line.

Careful records should be kept as each player is admitted to the Pipeline. The Pipeline Supervisor will want to see your records. In particular, the Pipeline Supervisor will be checking to see that you are selecting players with respect to the preceeding guidelines.

After you have selected some players, ask each of them to study carefully the collage of pictures. Ask each of them in turn, to select the three pictures which they like the best. Using the three pictures which they have selected, decide which of these colors is dominant: yellow, pink, or light blue. Give each player the color of construction paper which corresponds to the dominant color in their top three picture selections. If you are undecided, you might ask the player to rank order his/her three favorite pictures.

Before players leave your area, tell them that they are now eligible to go to Head of Circle and obtain a buck automatically without having to wait in line.

Players with construction paper are eligible to continue on through the Pipeline to Gatekeeper II.

Careful records should be kept of the color of the construction paper which is given to each player. The Pipeline Supervisor will want to see your records.

5.22 Gatekeeper II

Gatekeeper II will find three pictures, one of which is attached to a yellow piece of construction paper, one of which is attached

to a pink piece of construction paper and one of which is attached to a light blue piece of construction paper. Under each picture are a few sentences. Gatekeeper II is responsible for directing a player's attention toward that picture which is attached to the same color of construction paper which the player has chosen. Say to each player, "TELL ME ABOUT THE PICTURE." There are three levels of responses which players may make.

Level I: Descriptive Level--at this level players will simply describe what they see.

Level II: Interpretive Level--at this level players will bring new meanings to the picture. For example, players may express some hunches about what will happen next, what has happened or how people in the picture feel toward each other.

Level III: Evaluative Level--at this level players will critique the picture in some way. For example, players may say what is pleasing about the picture, how the picture could be better, or how they feel as a result of the picture.

Gatekeeper II will find nine containers which are marked in the following manner: Level I written on yellow construction paper, Level II written on yellow construction paper, Level III written on yellow construction paper, Level I written in pink construction paper. Level II written on pink construction paper, Level III written on pink construction paper, Level I written on light blue construction paper, Level II written on light blue construction paper and Level III written on light blue construction paper. In all Level I containers Gatekeeper II will find the simplest, most ordinary types of collage materials. In all Level II containers Gatekeeper II will find more interesting types of collage materials. In all Level III containers, Gatekeeper II will find the most complex and attractive collage materials.

Players who respond to the picture on a descriptive level are directed by Gatekeeper II to select six collage materials from the Level I container whose color matches the color of the player's construction paper. Players who respond to the picture on a descriptive and/or interpretive level are directed by Gatekeeper II to select six collage materials from the Level I container and six collage materials from the Level II container whose color matches the color of the player's construction paper. Players who respond to the picture on a descriptive and/or interpretive and/or evaluative level are directed by Gatekeeper II to select six collage materials from each of the three levels of containers whose color matches the color of the player's construction paper.

Before players leave your area, remind them that they are eligible to go to Head of Circle and obtain a buck automatically without having to wait in line.

Careful records should be kept of the level of response which each player makes. The Pipeline Supervisor will want to see your records.

5.23 Gatekeeper III

Gatekeeper III is responsible for working with each player as he/she develops a plan for using his/her collage materials. Gatekeeper III is responsible for giving constructive feedback to each player so that his/her collage materials can be displayed in the most aesthetically pleasing manner possible. Much attention should be given to the originality and cooperation which each player displays. When Gatekeeper III is satisfied with the plan of a particular player, then Gatekeeper III gives to that player a pair of scissors and some glue or paste.

Gatekeeper III is also responsible for negotiating with Collage Master, telling him/her about the new player who is ready to occupy any desk whose color of construction paper matches the player's color of construction paper. When telling Collage Master about each player, it is important to point out the player's ability to develop plans for using his/her collage materials in addition to the quantity and quality of the actual collage materials.

If Collage Master is impressed with your description of the player, he/she may ask to talk with the player in order to decide if the player is ready to occupy a chair. You may wish to be with the player when he/she talks with Collage Master. In that way, you can be of assistance to the player.

Before players leave your area, remind them that they are eligible to go to Head of Circle and obtain a buck automatically without having to wait in line.

Careful records should be kept of your work with each player, the number of players whom Collage Master accepts and the color of desk which players occupy. The Pipeline Supervisor will want to see your records.

Any player who is unable to secure a desk must stand in Territory H. He/she should not be forgotten by you and every effort should be made by you to help players in Territory H to secure a desk of the appropriate color. (In Territory H one or more of the players may have already occupied a desk. You are also responsible for helping these players to secure a desk of the appropriate color.)

5.24 Pipeline Supervisor

Pipeline Supervisor is responsible for establishing the criteria by which the record keeping systems of Gatekeepers and the quality of their work will be evaluated. In addition, Pipeline Supervisor is responsible for assisting the Gatekeepers in their work when and if they encounter a problem. Pipeline Supervisor is responsible for establishing criteria by which Gatekeepers are paid bucks. Pipeline Supervisor is also responsible for paying Gatekeepers in accordance with these criteria. As soon as the criteria have been established, Pipeline Supervisor should communicate this information to the Gatekeepers.

Careful records should be kept of the bucks which are paid to the Gatekeepers and the criteria by which Gatekeepers are paid bucks. The Game Facilitator will want to see your records.

5.25 Collage Master

Collage Master is responsible for negotiating with Gatekeeper III whenever a player is ready to occupy a desk whose color of construction paper matches the player's color of construction paper. Collage Master may simply accept the player. If however, there are two or more players and only one appropriate desk is empty, Collage Master should consider the following criteria when making a choice.

a) players with red lines on their badges should be given preference;

b) the quality and quantity of players' collage materials should be considered;

c) the ability of players to develop plans for using their collage materials should be considered. (Although Gatekeeper III will be telling Collage Master about their ability, Collage Master may ask to talk with the players in order to decide which player should occupy the chair.)

Collage Master is responsible for establishing the criteria by which collage makers may keep their desks or may move ahead to the table of the appropriate color. The criteria should be stringent enough so that some of the collage makers do not keep their desks and only three move ahead of the appropriate table.

Players who lose their desks should be given the following information:

> Go to Territory R. When or if there are less than two people in Territory H, a player in Territory R may move to Territory H. When players are in Territory H, Gatekeeper III will help them to secure a desk of the appropriate color.

Collage Master is responsible for establishing criteria by which collage makers at both levels are paid bucks. Collage Master is also responsible for paying collage makers in accordance with these criteria.

Collage makers who complete a collage will present them to Collage Master. Collage Master will pay collage makers according to the criteria which he/she established. Collage Master will then provide collage makers with another sheet of construction paper. The color of the construction paper must be the same color as the preceding sheet. Collage Master will also provide additional glue or paste and magazines from which to cut pictures. Collage makers at tables should be given the most pictorially attractive magazines.

Careful records should be kept of the bucks which are paid to the collage makers, the criteria by which collage makers are paid bucks, the number of collages completed, the criteria by which some collage makers move ahead to a table or lose their desks and the criteria for selecting potential collage makers. The Game Facilitator will want to see your records.

5.26 Head of Circle

Head of Circle is responsible for administering a questionnaire to each player who wants one buck and has no collage materials. (Questionnaires are found in the area.) Head of Circle is responsible for establishing criteria by which players' responses to the questionnaire will be evaluated. Careful records should be kept of the number of players who receive one buck, the number of players who get "turned down", the total amount of bucks given to players and the criteria by which players may be given bucks. The Game Facilitator will want to see your records.

Players who have obtained any collage materials have priority over the others:

1) they may go ahead of the others in line;

2) they may obtain one buck without having to respond to the questionnaire.

Players who have no collage materials must stand in line to receive a questionnaire, must fill out the questionnaire, and then must stand in line again to have their questionnaires processed.

Players who have two or more lines on their badges or one red line on their badges should be escorted by Head of Circle to Gatekeeper I.

5.27 Chance Master

Chance Master is resonsible for encouraging players to shoot dice and play poker. The rules for shooting dice and playing

poker should be developed by Chance Master who has the authority to change rules at any time. Since players will probably not have any bucks in the beginning, a system needs to be developed by which they can play for free when they begin to shoot dice or play poker.

Chance Master is responsible for establishing criteria by which players can win bucks. Chance Master is also responsible for paying players in accordance with these criteria.

6.0 GAME FACILITATOR'S RESPONSIBILITIES

6.1 Before the Game

Before playing Pipeline the Game Facilitator will study all written directions very carefully and will prepare the artifacts and room in accordance with these directions. About ten minutes before playing Pipeline, the Game Facilitator will select seven persons who will assume the jobs of Gatekeeper I, Gatekeeper II, Gatekeeper III, Pipeline Supervisor, Collage Master, Head of Circle and Chance Master. Each of these seven persons should be given a copy of his/her particular job description so that it can be studied in advance.

Just before the game begins, the Game Facilitator should hand out badges to participants. Participants having blue lines on their badges should be asked to wear gloves during the game.

6.2 Beginning the Game

To begin Pipeline, the Game Facilitator will read the section entitled "Game Facilitator's Introductory Statement." The system simulated by Pipeline will then begin.

At the beginning of the game, the Game Facilitator will give Head of Circle enough bucks for half of the players. In addition, the Game Facilitator will give Collage Master enough bucks for half of the players and Chance Master enough bucks for all of the players.

6.3 During the Game

During the game, the Game Facilitator will examine the record keeping systems of Pipeline Supervisor, Collage Master and Head of Circle. The Game Facilitator should be ready to assist anyone who asks for help or appears to be floundering with the rules. About two minutes before the Game Facilitator is ready to collect bucks from players, he/she should give everyone a two minute warning. Gatekeepers and players alike will need to pay a buck.

6.4 Ending Pipeline

The Game Facilitator will end the game of Pipeline after at least one-third of the players have had some opportunity to be college makers and when the interaction within the game appears to be at a peak. This usually occurs after about an hour, though the number of players and their unique characteristics can affect this considerably.

7.0 DEBRIEFING

7.1 Questions Used

After the game of Pipeline has ended, the Game Facilitator will help people to step out of the game and reflect back upon their experiences. The questions which follow will assist participants to do this in a logical manner.

1) Collage makers, would you be willing to explain your collages or would Collage Master like to talk about the collages?

2) Players, how would you describe your experience with Chance Master?

3) Chance Master, could you read your job description? How did players react toward you as a result of the duties you were expected to perform?

4) How would you describe your experience with Gatekeeper I? Did your badge seem to make a difference in your relationship with Gatekeeper I?

5) Gatekeeper I, could you read your job description? How did players react toward you as a result of the duties you were expected to perform? You had a certain quota to fill. Were you able to fill it? What difficulties did you encounter as you tried to reach your quota?

6) How would you describe your experience with Gatekeeper II?

7) Gatekeeper II, could you read your job description? How did players react toward you?

8) How would you describe your experience with Gatekeeper III?

9) Gatekeeper III, could you read your job description? How did players react toward you?

10) Gatekeepers, how would you describe your experience with Pipeline Supervisor?

11) Pipeline Supervisor, could you read your job description? How did Gatekeepers react toward you?

12) Gatekeeper III, how would you describe your experience with Collage Master? Players, how would you describe your experience with Collage Master?

13) Collage Master, could you read your job description? How did Gatekeeper III and the players react toward you?

14) How would you describe your experience with Head of Circle?

15) Head of Circle, could you read your job description? How did players react toward you?

16) Could someone describe their experience in Territories R or H?

17) How many of you got to make collages at a table? How did you feel about that?

18) Did anyone get sent to isolation?

19) Did anyone do anything during the game which might be considered inappropriate or deviant behavior?

20) Seven of you had specific jobs during the game. Were you aware of what others were doing during the game?

21) Several of you were wearing gloves during the game. How did you feel about that? How did players react toward you?

22) Each aspect of the game is symbolic. For example, the lines on your badges stood for certain segments of the population. If you had a blue line, you were a minority; if you had a green line you were a youth; if you had a purple line, you were a head of household; if you had a red line, you were a veteran; if you had no lines, you were not a member of any of these segments of the population. What might Gatekeeper I represent in the real society? (Continue asking questions until the conversion from the game to an Employment and Training Program is made. Since this game is to be used as a learning experience it is quite appropriate to add missing information.)

23) How would you change Pipeline to make it more effective? Are the weaknesses in Pipeline consistent with the inadequacies of Employment and Training Programs?

24) Pipeline has been specifically designed to simulate an Employment and Training Program. Does the game apply to any other programs or systems that exist in the real world?

7.2 Evaluation of the Debriefing Process

During the debriefing process of Pipeline, participants are asked to describe their interactions with seven players who volunteer to assume one of the job descriptions in the society. The seven volunteers read their job descriptions and then explain how participants reacted toward them as a result of the duties they were expected to perform.

Inevitably, some of the participants express their surprise that so much went on during the game. Participants who spent most of their time with Chance Master, for example, will be unaware of the intricacies of the Pipeline and totally unaware of the frustrations and satisfactions of the collage makers. Many times

Gatekeeper III will know more about Collage Master than about Gatekeeper I. All of the Gatekeepers usually complain that their work keeps them so busy they don't have time to communicate among themselves much less learn the job descriptions of persons such as Head of Circle. Unless Pipeline Supervisor is unusually competent, he or she attempts to supervise the three Gatekeepers without a complete understanding of their job descriptions. This, in turn, leads to grumbling among the three Gatekeepers.

When asked how to improve the game, participants cite problems of communication, isolation, misunderstandings, and inappropriate job behavior as key concerns. When assisted by the game facilitator, participants are able to focus on a typical model for an Employment and Training Program. They begin to understand that Pipeline works only as well as the people--all the people--who participate in the game. They begin to see that Pipeline, with its job descriptions and choices, helps participants to assume true "ownership" for their actions during the game. In the end, participants understand something of the nature of the system as it is supposed to operate and that it rarely actually operates this way due to people problems.

8.0 CONCLUSION

8.1 Summary

Pipeline is a simulation which was designed by two codevelopers who pooled their knowledge of both content and methodological processes. Its simulated components were developed to function together in the same manner as the components of an Employment and Training Program. The constraints of the game allow participants to assume ownership for their actions during the game. This responsibility for one's actions is the key which assists participants to locate problem areas and pose solutions. In the end, participants move from a simulated setting to a better understanding of the real problems which exist within Employment and Training Programs.

8.2 References

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8.3 Evaluation

The Pipeline simulation game was evaluated using Dukes and Waller's Simulation Game Exercise Evaluation form (1976) using four key items (Appendix A-1, #5, #22, #24 and #25) to measure Accuracy, Plausibility, Value and Relevance. These items are key variables in the evaluation model developed by Dukes and Waller.

- Accuracy refers to the degree to which the game represents the model of reality that it mirrors.

- Plausibility refers to the subjective reactions to the game by the players--akin to "credibility" insofar as the game takes cognizance of the players' experience and capabilities.

- Value refers to the degree of overall quality that characterizes the game.

- Relevance refers to the degree of relation that the exercise has to the concerns of the players.

Each variable was rated on a 5 point scale on a grand total of 183 subjects (N's vary slightly from item to item due to the failure of a few subjects to rate all items). Grand means and standard deviations were:

	MN	SD	N
Accuracy:	4.08	1.00	179
Plausibility:	3.98	.71	177
Value:	4.00	1.06	182
Relevance:	4.08	1.01	181

Unfortunately normative information on the Dukes and Waller instrument is lacking save reliability coefficients (Robinson's A's) of .92 for Accuracy, .90 for Plausibility, .94 for Value and .86 for Relevance (N not reported).

Further analysis of the scoring of Pipeline on the Postgame Questionnaire reveals the evaluations tended to be higher as work experience of the evaluators increased (Table 1).

Work Experience	Accuracy		Plausibility		Value		Relevance	
	N	Mn	N	Mn	N	Mn	N	Mn
less than 1 year	6	3.67	6	3.50	6	3.83	6	3.67
1-5 years	78	4.13	78	3.95	81	3.93	81	4.00
6-15 years	71	4.00	70	3.90	71	3.99	71	4.14
over 15 years	20	4.10	19	4.06	19	4.32	18	4.22

Table 1 Scoring of Pipeline Participants' Length of Work Experience

There was also a tendency for participants with specific job roles in the game to rate the game higher than those who portrayed the unemployed. (Table 2).

	Accuracy		Plausibility		Value		Relevance	
	N	Mn	N	Mn	N	Mn	N	Mn
"Unemployed" role	133	4.07	130	3.86	136	3.70	135	3.92
Specific Job role	44	4.11	43	4.11	44	4.25	44	4.34

Table 2 Scoring of Pipeline by Specific and Unemployed role

A random selection of 3 males and 3 females from each sample group (N=21) revealed very little difference in game evaluation on the basis of sex (Table 3).

	Accuracy	Plausibility	Value	Relevance
Male	4.10	3.90	4.00	4.14
Female	4.05	3.95	4.00	4.19

Table 3 Evaluation Means of Pipeline by Sex

It is worth noting further that the game was rated highest (group mean) by the one group which was employed in an employment and training program, under a CETA contract. All of these participants were direct service deliverers or first line supervisors (Table 4).

Accuracy		Plausibility		Value		Relevance	
N	Mn	N	Mn	N	Mn	N	Mn
24	4.23	22	4.23	23	4.65	22	4.68

Table 4 Pipeline Evaluation by CETA Employees

In the absence of additional statistical analysis, these data cannot now be interpreted for significant of any differences. When such statistical analysis has been completed, the authors will be able to make inferences about the game based on statistically derived data. Meanwhile these data are offered without claim of significant differences between means of various group samples.

APPENDIX A.1

PIPELINE EVALUATION FORM

Monograph #10

PERSONAL INFORMATION

Sex: ___Male ___Female

Age: ___under 21 ___21-25 ___26-34 ___35-50 ___51-65 ___over 65

Schooling: ___Freshman ___Sophomore ___Junior ___Senior ___Graduate ___Post Masters

Work Experience: ___none ___under 1 year ___1-5 years ___6-15 years ___16-25 years ___over 25 years

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EVALUATION OF A SIMULATION GAME

1. What role did you play?_____

2-3. How would you rate the instructions of the game?

Clear ___ ___ ___ ___ ___ Unclear

Easy to Understand ___ ___ ___ ___ ___ Hard to Understand

4. How would you rate the accuracy with which the game represents the model of the reality it is attempting to represent?

Accurate Representation ___ ___ ___ ___ Inaccurate Representation

5. How would you rate the length of time the game takes to reach its objective?

Too Long ___ ___ ___ ___ ___ Too Short

6. What is the relation between strategy and outcomes of the game?

Relation Determined (non-random) ___ ___ ___ ___ ___ Relation Not Determined (random)

7. In the game how often do better strategies lead to more desirable outcomes?

Always _____ _____ _____ _____ _____ Never

8. To what extent does the game allow participants to employ alternative strategies?

High Extent _____ _____ _____ _____ Low Extent

9. To what extent was the game fun?

High Extent _____ _____ _____ _____ Low Extent

10. To what extent does this game allow participants to draw upon knowledge acquired in other ways?

Large Extent _____ _____ _____ _____ Small Extent

11. To what extent does this game allow participants to extrapolate from their own experience to the exercise?

High Extent _____ _____ _____ _____ Low Extent

12. To what extent do all participants in the game receive the same experiences?

High Extent _____ _____ _____ _____ Low Extent

13. To what extent do time distortions interfere with smooth functioning of the game?

Large Extent _____ _____ _____ _____ Small Extent

14. To what extent are participants required to engage in activities which seem unnecessary?

Large Extent _____ _____ _____ _____ Small Extent

15. To what extent is the game appropriate for students at this level of scholastic experience?

Too Elementary _____ _____ _____ _____ Too Advanced
About Right

16. To what extent would this game be appropriate for participants who have not had experience with simulation games?

Appropriate _____ _____ _____ _____ Inappropriate

Please rate the game in each of the dimensions below:

17. Plausible _____ _____ _____ _____ _____ Not Plausible

18. Realistic _____ _____ _____ _____ _____ Artificial

19. Valuable _____ _____ _____ _____ _____ Worthless

20. Relevant _____ _____ _____ _____ _____ Irrelevant

APPENDIX A.2

Questionnaire

1. Do you have one or more lines on your badge?_____

   If so, how many?_____

   If so, what are their colors?_____

2. Have you been invited to enter the Pipeline by Gatekeeper I?_____

   If you were invited to enter, why did you decline? _____

   _____

3. How long have you been in Territory P?_____

4. Did you spend any time playing cards or shooting dice while in Territory P?_____

5. Have you ever been sent to Isolation?_____

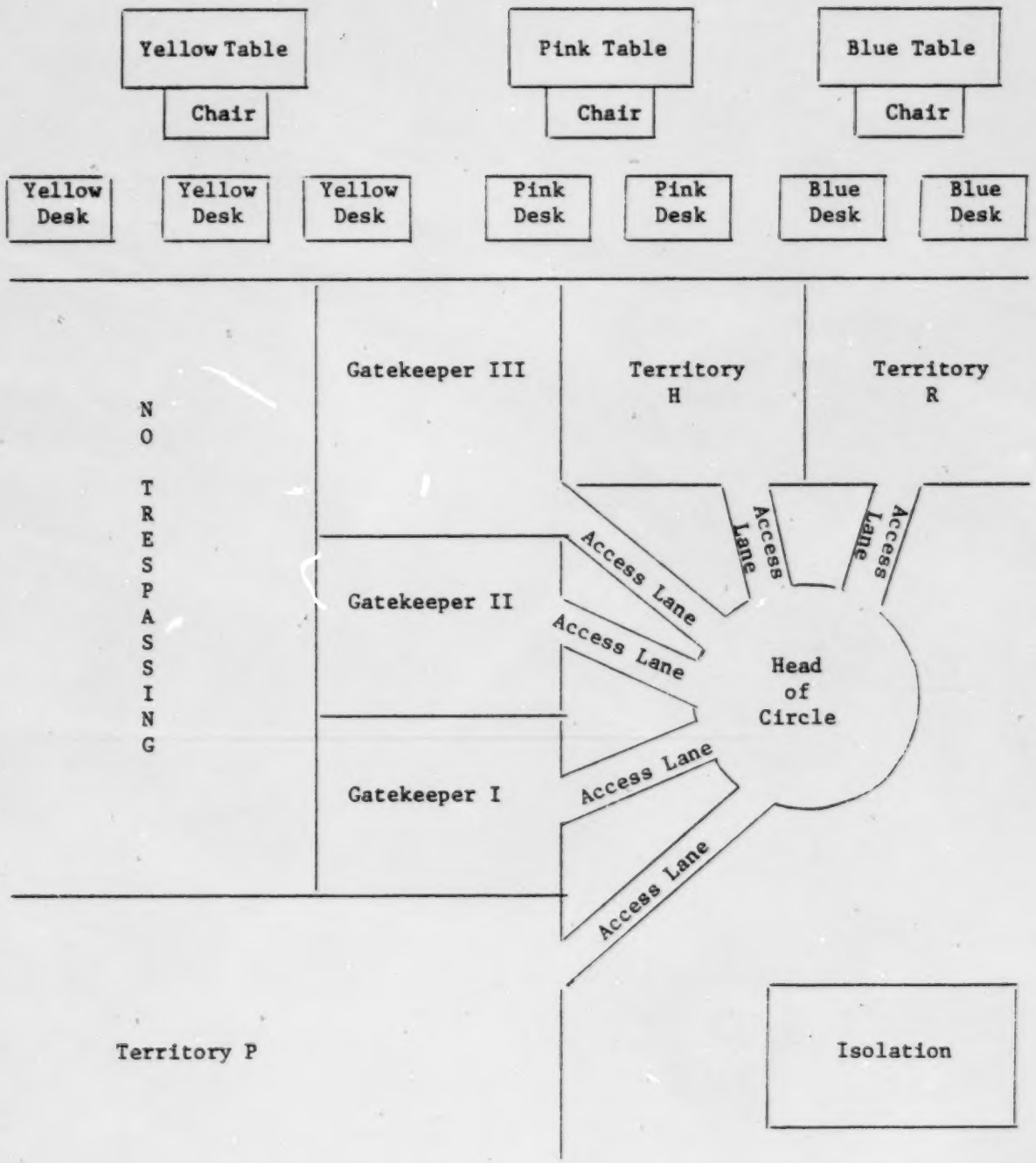
   If so, what were the circumstances?_____

   If so, how long did you stay in Isolation?_____

6. Do you eventually want to enter the Pipeline?_____

APPENDIX A.3

ROOM ARRANGEMENT



APPENDIX A.4

MONOGRAPH EVALUATION FORM

Monograph #10

1. _____ _____
(Your Name) (Title)

_____ _____
(Institution) (Department)

_____ _____
(Address) (Phone)

2. How did you acquire this monograph?

3. One of our goals is to have people use or apply the monograph contents in some way. What are the (a) immediate or (b) long-range uses you may have for this monograph?

4. FOR ACADEMIC INSTITUTIONS

In what degree program or concentration might you utilize this monograph?

5. FOR AGENCIES AND OTHER ORGANIZATIONS:

Would this monograph therein meet some of your organization's training needs? Please explain.

6. This monograph was designed around a systems model for instructional planning. Did you find this to be a helpful format?

7. OPTIONAL COMMENTS:

If you are interested in critiquing the instructional contents of the monograph, we would appreciate your comments.

Signature_____Date_____

Please return as soon as possible.

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